Title: "Method And Apparatus For A Group Communication System"
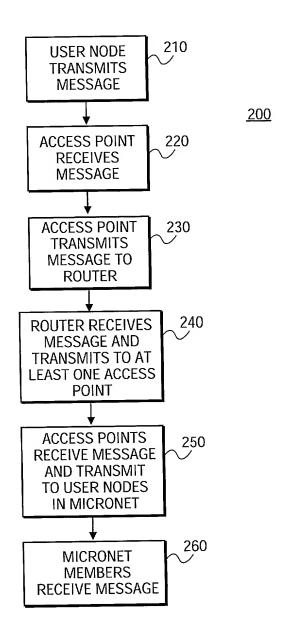Inventors: Darin W. Keever, Corey M. Rhoden, Ken L. White
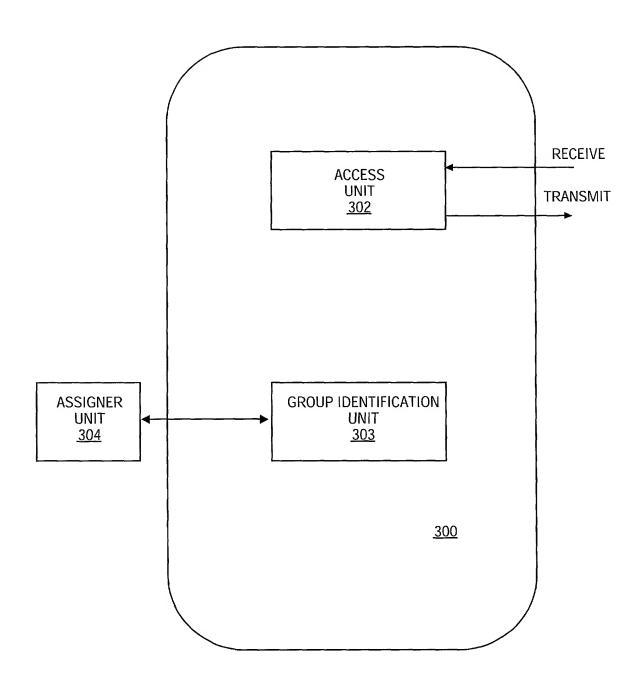Attorney Docket Number: 5861.P001

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FIG. 1

Title: "Method And Apparatus For A Group Communication System"
Inventors: Darin W. Keever, Corey M. Rhoden, Ken L. White
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USER NODE
TRANSMITS
MESSAGE ⟩ 210

200

ACCESS POINT
RECEIVES
MESSAGE ⟩ 220

ACCESS POINT
TRANSMITS
MESSAGE TO
ROUTER ⟩ 230

ROUTER RECEIVES
MESSAGE AND
TRANSMITS TO AT
LEAST ONE ACCESS
POINT ⟩ 240

ACCESS POINTS
RECEIVE MESSAGE
AND TRANSMIT
TO USER NODES
IN MICRONET ⟩ 250

MICRONET
MEMBERS
RECEIVE MESSAGE ⟩ 260

FIG. 2

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ACCESS
UNIT
302

RECEIVE

TRANSMIT

ASSIGNER
UNIT
304

GROUP IDENTIFICATION
UNIT
303

300

FIG. 3A

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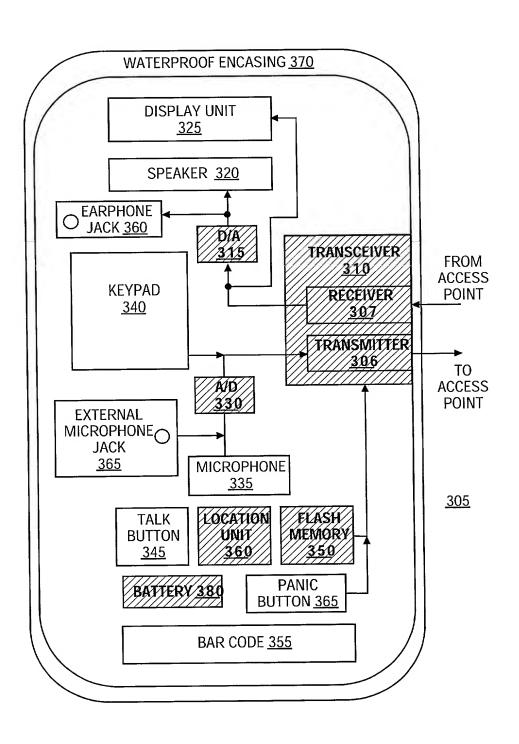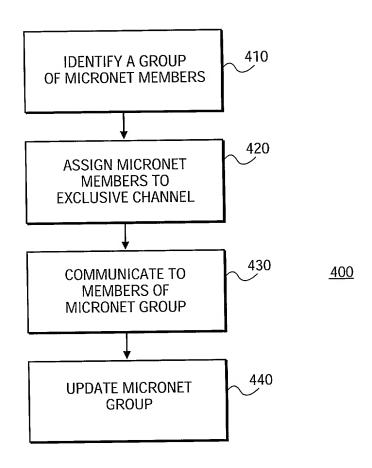Attorney Docket Number: 5861.P001

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WATERPROOF ENCASING 370

DISPLAY UNIT
325

SPEAKER 320

EARPHONE
JACK 360

D/A
315

TRANSCEIVER
310

FROM
ACCESS
POINT

RECEIVER
307

KEYPAD
340

TRANSMITTER
306

TO
ACCESS
POINT

A/D
330

EXTERNAL
MICROPHONE
JACK
365

MICROPHONE
335

305

TALK
BUTTON
345

LOCATION
UNIT
360

FLASH
MEMORY
350

BATTERY 380

PANIC
BUTTON 365

BAR CODE 355

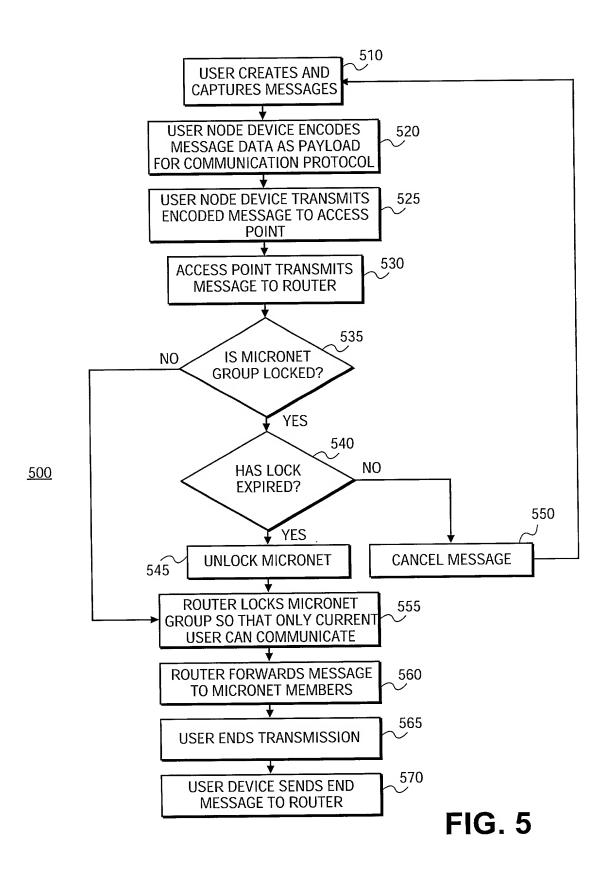FIG. 3B

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IDENTIFY A GROUP
OF MICRONET MEMBERS 410

ASSIGN MICRONET
MEMBERS TO
EXCLUSIVE CHANNEL 420

COMMUNICATE TO
MEMBERS OF
MICRONET GROUP 430

400

UPDATE MICRONET
GROUP 440

FIG. 4

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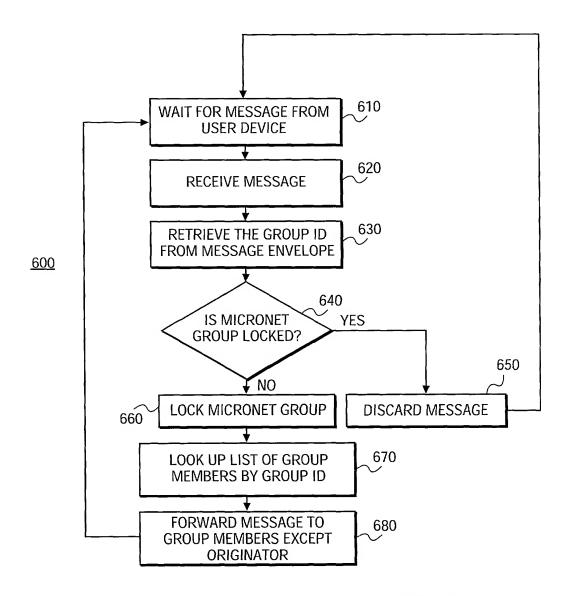Attorney Docket Number: 5861.P001

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USER CREATES AND CAPTURES MESSAGES — 510

USER NODE DEVICE ENCODES MESSAGE DATA AS PAYLOAD FOR COMMUNICATION PROTOCOL — 520

USER NODE DEVICE TRANSMITS ENCODED MESSAGE TO ACCESS POINT — 525

ACCESS POINT TRANSMITS MESSAGE TO ROUTER — 530

IS MICRONET GROUP LOCKED? — 535

NO

YES

HAS LOCK EXPIRED? — 540

NO

YES

UNLOCK MICRONET — 545

CANCEL MESSAGE — 550

ROUTER LOCKS MICRONET GROUP SO THAT ONLY CURRENT USER CAN COMMUNICATE — 555

ROUTER FORWARDS MESSAGE TO MICRONET MEMBERS — 560

USER ENDS TRANSMISSION — 565

USER DEVICE SENDS END MESSAGE TO ROUTER — 570

500

FIG. 5

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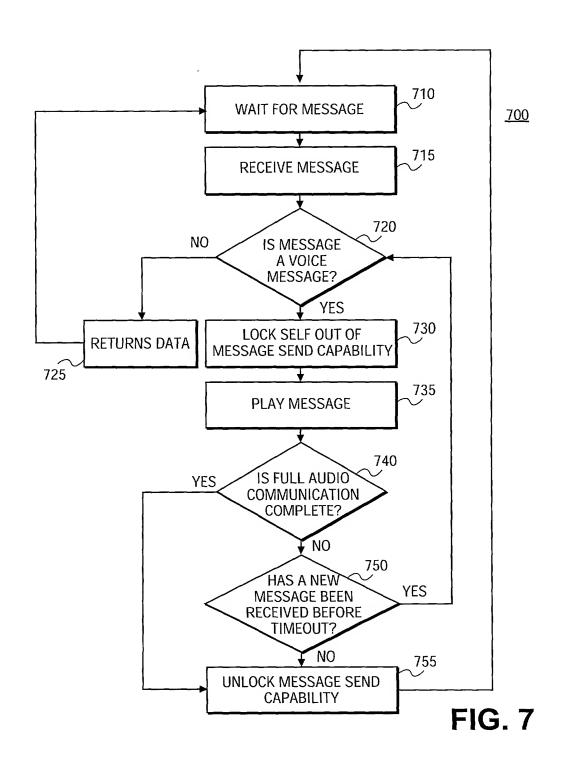Attorney Docket Number: 5861.P001

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600

WAIT FOR MESSAGE FROM USER DEVICE 610

RECEIVE MESSAGE 620

RETRIEVE THE GROUP ID FROM MESSAGE ENVELOPE 630

IS MICRONET GROUP LOCKED? 640

YES

NO

660 LOCK MICRONET GROUP

DISCARD MESSAGE 650

LOOK UP LIST OF GROUP MEMBERS BY GROUP ID 670

FORWARD MESSAGE TO GROUP MEMBERS EXCEPT ORIGINATOR 680

FIG. 6

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FIG. 7

Title: "Method And Apparatus For A Group Communication System"
Inventors: Darin W. Keever, Corey M. Rhoden, Ken L. White
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USER1 TRANSMIT STATE	MICRONET STATE	USER2 TRANSMIT STATE	TIME
IDLE 801	UNLOCKED 800	IDLE 802	t_0
INITIATING MESSAGE 811	LOCKED BY USER1 TIMER STARTED 810	IDLE 812	t_1
SENDING MESSAGE 821	LOCKED BY USER1 TIMER RUNNING 820	INITIATING MESSAGE 822	t_2
SENDING MESSAGE 831	LOCKED BY USER1 TIMER RUNNING 830	IDLE 832	t_3
TERMINATING MESSAGE 841	LOCKED BY USER1 TIMER RUNNING 840	IDLE 842	t_4
IDLE 852	LOCKED BY USER1 TIMER EXPIRED 850	IDLE 852	t_5
IDLE 862	LOCKED BY USER2 TIMER STARTED 860	INITIATING MESSAGE 862	t_6
IDLE 872	LOCKED BY USER2 TIMER RUNNING 870	SENDING MESSAGE 872	t_7

FIG. 8

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USER1 TRANSMIT STATE	MICRONET STATE	USER2 TRANSMIT STATE	TIME
IDLE 901	UNLOCKED 900	IDLE 902	t_0
INITIATING MESSAGE 911	LOCKED BY USER1 910	IDLE 912	t_1
SENDING MESSAGE 921	LOCKED BY USER1 920	INITIATING MESSAGE 922	t_2
SENDING MESSAGE 931	LOCKED BY USER1 930	IDLE 932	t_3
TERMINATING MESSAGE 941	UNLOCKED 940	IDLE 942	t_4
IDLE 952	LOCKED BY USER2 950	INITIATING MESSAGE 952	t_5
IDLE 962	LOCKED BY USER2 960	SENDING MESSAGE 962	t_6

FIG. 9

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FIG. 10